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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,939	12/10/2003	Gunnar van der Steur	2594/EFC-4	8714

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EXAMINER

KOCH, GEORGE R

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,939

Applicant(s)

VAN DER STEUR, GUNNAR

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 31-58 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 14-28 is/are rejected.
- 7) ☒ Claim(s) 5-11, 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-2, 12, and 14-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehinger (US 5,772,125) and Giroux (US Patent 5,092,126).

Ehinger discloses an apparatus for isolating an electrostatic sprayer (see Figures 1) from an electrically grounded coating product distribution circuit (items 9, 10) connected thereto, the apparatus comprising an electrostatic sprayer carried by a maneuverable robot arm (item 4), the sprayer capable of spraying an electrically

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conductive coating passing in adjacent proximity product onto a workpiece thereby on command, said coating product being supplied from a source of supply through at least one said distribution circuit connected to said sprayer, said apparatus including therein, and carried by said robot arm (arm 4), an electrically insulative storage tank (item 6) for said coating product in valved fluid communication (by material changer 9 and connections 12 and 13) with said sprayer and connected to and positioned downstream from a length of supply conduit (the conduit between item 13 and item 6), said length of supply conduit connected to said distribution circuit (via quick connections 12 and 13) and which can be mechanically disconnected. This supply conduit is carried by said robot arm and including means for cleaning a portion (the recited solvent reads on the cleaning means), including all, of said length of supply conduit, in situ, after filling of said storage tank with coating product and before spraying, such that substantially all of said conductive coating product is removed from said portion of supply conduit, thereby isolating said sprayer electrically from said distribution circuit (see columns 2-3).

Ehinger does not suggest that the supply conduit is electrically insulative.

However, Giroux discloses that the supply conduits are insulative (see abstract, column 4, line 38 to column 5, line 14, and claim 1). This conduit is part of the electrostatic sprayer. Insulation of the conduit is important, since it reduces the risk of explosion or flammability in an electrostatic sprayer, and one would incorporate the conduit of Giroux in order to reduce this risk. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include make the conduit

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insulative such as disclosed in Giroux since such an insulative conduit would reduce the flammability of the apparatus and improve safety.

As to claim 2, Ehinger discloses that the supply conduit (the unnumbered conduit between items 13 and 6) and the storage tank (item 6) are part of, i.e., form within, a unitary housing.

As to claim 12, Ehinger discloses that the supply tank includes a piston (see column 2, line 54).

Ehinger does not disclose that the supply conduit is tubular. Ehinger is generally silent as to the valving and supply conduit details. Thus, as to claim 15, Ehinger also does not disclose that means for cleaning said supply conduit includes a plunger positioned within said conduit and adapted to reciprocally traverse said length of said conduit.

As to claim 14 and 15, Giroux discloses a very similar apparatus (notice in Figure 2 that the spraying apparatus includes the conduit 11 and supply tank 64) wherein the supply conduit is tubular and the cleaning means further includes a plunger (item 14) positioned within said conduit and adapted to reciprocally traverse said length of said conduit. Giroux discloses that these structures enable the coating product to be changed extremely quickly and the time spraying is interrupted is reduced (see column 7, lines 37-43). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have included the supply conduit with plunger specific

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cleaning means as in Giroux in order improve change over time and reduce spraying interrupting time.

As to claim 16, Ehinger does not disclose that the plunger is made of a fluoroelastomer. However, official notice is taken that fluoroelastomers are well known and conventional for use as an insulative material. Insulation of the plunger is important, since it reduces the risk of explosion or flammability in an electrostatic sprayer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include make the plunger insulative since such an insulative plunger would reduce the flammability of the apparatus and improve safety.

As to claim 17, Giroux as incorporated above discloses driving means (air supply 81) for driving said plunger reciprocally back-and-forth through said length of said conduit on command.

As to claim 18, Giroux as incorporated above discloses that the driving means comprises air under pressure controlled by valving (item 82).

As to claim 19, Giroux as incorporated above discloses a valve-controlled source of compressed air (item 81) connected thereto.

As to claim 20, Both Ehinger and Giroux disclose a valve-controlled source of solvent (Giroux, column 7, lines 21-36, and see also column 8, lines 50-52) connected to said distribution circuit.

As to claim 21, the apparatus of Ehinger and Giroux is capable of using a solvent such as water.

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As to claim 22, the apparatus of Ehinger and Giroux is capable of using a solvent such as deionized water.

As to claim 23, Ehinger discloses a high voltage generator (item 11) carried within said robot arm, said generator being supplied with low voltage via an isolated connector (i.e., regulatable or interruptable) from an external voltage source.

As to claim 24, Ehinger discloses that the spray apparatus includes multiple conduits (see column 2, lines 59-62) or distribution circuits, which are intended to enable coating material changes (the conduits connect to "coating material changing assembly 9"). Therefore, the conduits or circuits can optionally distribute coatings of different colors.

As to claim 25, Ehinger discloses that the preferred material is a water soluble paint (see column 2, line 8).

As to claim 26, Ehinger discloses that two of these spraying robots (called lateral sprayers) are intended to be used together, one for each side of an automobile (see column 5, lines 22-29) in an assembly line process (as described in the background of the invention, column 1). Therefore, Ehinger discloses an installation for coating a plurality of workpieces simultaneously, the installation including a plurality of the apparatus of claim 1 connected to a plurality of coating product distribution circuits.

As to claim 27 and 28, Ehinger is capable of coating automobiles.(and for the record, further discloses)

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4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehinger and Giroux as applied to claims 1 and 2 above, and further in view of Baba (US 4,779,804) and Rehman (US Patent 2002/0117110).

Ehinger discloses all of the limitations of claims 1 and 2. However, Ehinger does not disclose that the supply conduit or housing are made of polyacetal resin.

Baba discloses that it is known to utilize polyacetal resin to manufacture gun bodies (see column 4, lines 50-60). Rehman discloses that this material reduces electrical shock effects from stored capacitances, improving the safety of the device (paragraph 0061). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such polyacetal resins for the gun housing and the conduit, both subcomponents of the gun body in Baba, in order to reduce electrical shock effects.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4, 12, and 14-28 have been considered but are moot in view of the new ground(s) of rejection. Giroux has been applied to address the insulative feature of the conduit.

Allowable Subject Matter

6. Claims 5-11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the

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limitations of the base claim and any intervening claims (see previous action for reasons for indicating allowable subject matter).

7. Claims 29-30 are allowed (see previous action for reasons for allowance).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Patent Examiner
Art Unit 1734

GRK
8/22/2005